

Figure 1 is a <sup>perspective</sup> prospective view of the pedestal;

Figure 2 is a plan view of a stringer;

Figure 3 is a side elevation of the stringer of Figure 2;

Figure 4 is a section of the stringer of Figure 2;

Figure 5 is a plan view of the nut encapsulating member;

Figure 6 is a section view of the member of Figure 5;

Figure 7 is a side elevation of a pin used to secure a stringer to a pedestal;

Figure 8 is a side elevation of a stud used to correctly  
10 space panels from one another; and

Figure 9 is a section view of a stringerless assembly showing the panels in place.

In Figure 1, the pedestal 1 includes a base plate 3 with upturned edges 5 and a hollow tube 7 welded or otherwise affixed to plate 3. The cap 9 has four arms 11 which are 90° apart and extend laterally to resemble a cross in plan view. A downwardly depending threaded shaft 21 is secured to the underside of cap 9. The shaft 21 is keyed at 24 and slides within tube 7 until stop nut 23 abuts the upper rim of tube 7. By screwing or unscrewing the  
20 nut on threaded shaft 21 the cap is raised or lowered as desired. An encapsulating member 25 for stop nut 23 is keyed to shaft 21 and forms a locking device that secures the nut in place and prevents same from turning during use.

Each arm 11 has peripheral raised ribs 13 about its longitudinal sides and an aperture 15 located substantially centrally relative to the ribs. The aperture 15 is preferably a conical, female dimple which receives an insertion that fastens or secures a stringer. Alternatively, the aperture 15 can receive a spacer stud for the panels if no stringers are used. In any event, the aper-  
30 ture 15 in cooperation with the insertion serves to properly posi-



tion the pedestals relative to one another.

A stringer 31 is a U-shaped channel beam having an opening 33 at each end. A pedestal with stringer is shown in phantom in Figure 1. The openings 33 are actually conical dimples which interfit with apertures 15 and thus serve to accurately space the pedestals relative to one another. When fastened to pedestal arms by countersunk machine screws 30, a sturdy, rigid gridwork is formed.

Each stringer has a top 35 and two sides 37 that are  
 10 angled away from the vertical (Figure 4) to terminate in side flanges 38 that can be beaded. The ends of the stringer shown in Figure 2 are pointed and the sides 37 are out away at their edges 39 to slant away from the stringer ends. As seen in section (Figure 4), the top 35 has raised rims 41 that interfit over ribs 13 of cap 9. Preferably, an insulating gasket 43 is adhered to top 35 along the length of stringer 31 to deaden metal-to-metal sounds during use.

Preferably, the supporting parts of the understructure are of metal, such as steel, in the interests of low manufacturing  
 20 cost and high strength. For example, the parts can be drawn or fabricated to the desired configurations using thicknesses of 0.09" for the cap 9, 0.125" for the base plate 3, 1.05" for the outside diameter of tube 7 with 0.065" wall thickness. The shaft 21 is solid and can be 0.622" in diameter. The stringers 31 can be 0.039" thick. Obviously, the above dimensions and sizes are illustrative of only one embodiment and variations thereof can be made depending on the intended use of the understructure.

Encapsulating member 25 has an inner protrusion 26 and slides along shaft 21 without turning when protrusion 26 is fitted  
 30 to key in groove 24. Thus, when stop nut 24 is encapsulated by

member 25 as seen in Figure 1, the shaft 21 and cap 9 can be turned relative to base 3 and tube 7 without changing the supporting height of the pedestal 1 since the bottom of the stop nut 23 merely turns on the rim of tube 7. Sliding member 25 out of engagement with nut 23 enables same to be screwed or unscrewed on shaft 21.

As mentioned above, a countersunk machine screw 30 can be used to fasten the stringers to the pedestal arms 9 and the matching dimpled apertures 15 and openings 33 insure that the connections are immovable in any direction.

10 In Figure 7, a locator pin 51 is shown, the lower portion 53 of which is plastic that can be snap-inserted in aperture 15 to remain in place. The upper portion 55 of pin 51 is preferably a metal pin that loosely fits within opening 33. Thus, instead of rigidly fastening the stringers to the pedestals, the stringers are secured to the pedestals laterally and the stringers can be readily separated from their respective pedestal arms by simply lifting the former.

Alternatively, the stringers can be eliminated in those elevated floors destined to sustain relatively light loads and a  
20 spacer stud 61 (Figure 8) can be threaded at 63 in the apertures 15. The entire stud 61 is preferably metal such as steel and the upper portion 65 is tapered so that it closely abuts the sides of adjoining panels.

In Figure 9, the abutting sides 22 of panels 20 form slanting flanges that fit closely against the sides of stud 61 which serves as a spacer. In a similar fashion, the strips 64 of the panel disclosed in U. S. patent 3,420,012 fits snugly against the tapered sides of stud 61, the latter terminating just below the bent portion 66 and the bottom rims of the patented panel fit  
30 within raised ribs 13. The stud 61 prevents shifting of panels

particularly when one of the panels has been removed for access to the sub-floor. Also, stud 61 serves to fix the pedestals in place by reason of the snug fit between the stud and the sides of the panels. The pedestals can be initially properly spaced by matching the apertures 15 with openings 33 and then removing the stringer 31.

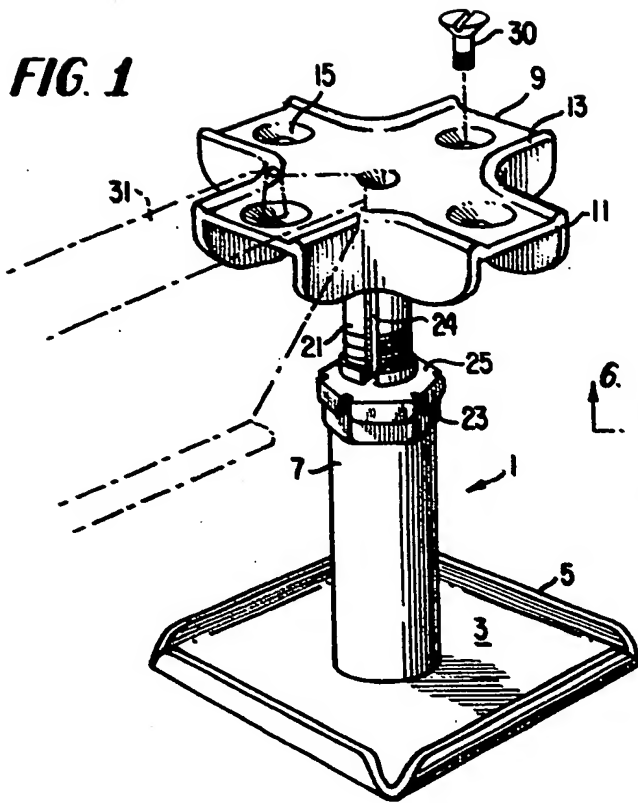
THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE  
PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:-

1. An elevated structure comprising a plurality of separate modular panels for forming a floor assembly above a sub-floor, an understructure of pedestals for supporting at least the corners of said panels at their junctures, said pedestals each having a removable cap with a threaded shaft depending from the underside of said cap, a base with an upstanding hollow tube to receive said shaft and a stop nut for threading on said shaft to regulate the degree that said shaft extends in said tube, locking means associated with said nut to fix same and position said cap at the desired height above the sub-floor, said cap being cruciform in plan view with four outwardly extending arms, each of said arms having raised ribs about its outer longitudinal peripheries and an aperture located in each arm between said peripheries, a plurality of insertion elements that can be optionally and interchangeably fitted in the apertures of said arms to retain said panels in relative position to one another when said floor structure is assembled.
2. The structure of claim 1, wherein stringers are attached to each cruciform arm to bridge neighboring pedestal caps, each stringer comprising an inverted U-shaped channel beam, the top of which is provided with an opening at each end which are connected to neighboring arms of adjacent pedestals by said insertion means, the top of each beam having raised rims which interfit over the ribs of said cap.
3. The structure of claim 2, wherein the apertures of said arms and the openings of said beams are dimpled to closely interfit one another.
4. The structure of claim 3 wherein the apertures of said arms and the openings of said beams are fastened to one another by countersunk screw means.
5. The structure of claim 3, wherein the apertures of said arms and the openings of said beams are longitudinally secured to one another by a pin.

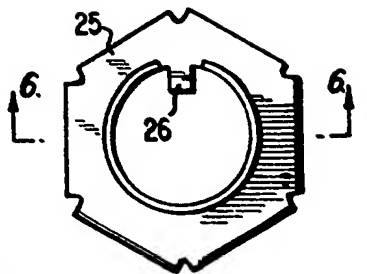
6. The structure of claim 1, wherein said insertion elements are spacer studs secured in the apertures to fit between adjacent panels.

7. The structure of claim 1, wherein said locking means comprises an encapsulating member for said nut, said shaft being keyed along its length and said member having projection means to slidably fit within the keyed portion of said shaft whereby said nut can be retained in place while said cap is turnable relative to said base.

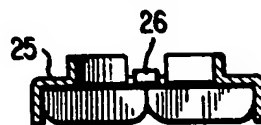




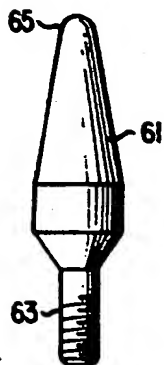
**FIG. 5**



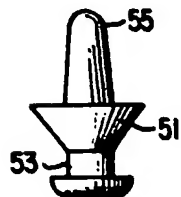
**FIG. 6**



**FIG. 8**



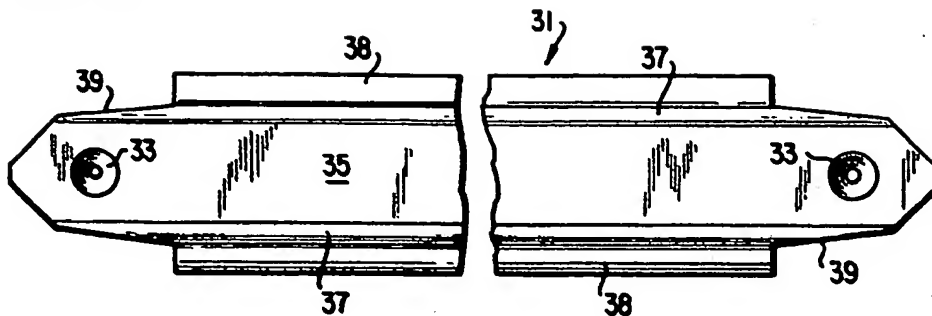
**FIG. 7**



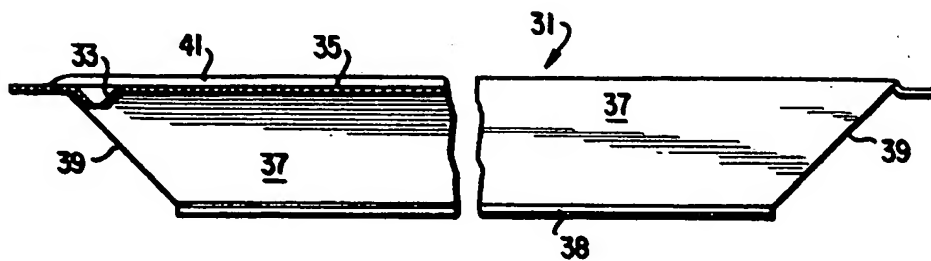
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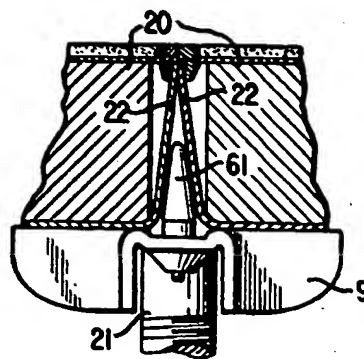
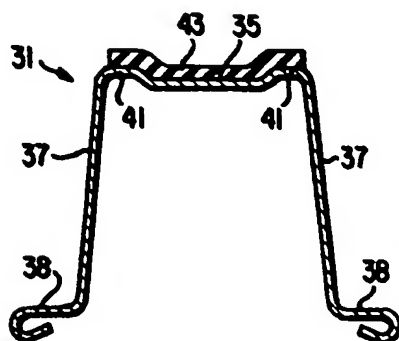
**FIG. 2**



**FIG. 3**



**FIG. 4**



**FIG. 9**

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